

# इंटरनेट

# मानक

## Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 414 (1965): guts for tennis, badminton and squash rackets [PCD 22: Sports Goods]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”



BLANK PAGE



*Indian Standard*  
SPECIFICATION FOR  
GUTS FOR TENNIS, BADMINTON  
AND SQUASH RACKETS  
( *Revised* )

---

Second Reprint SEPTEMBER 1995

UDC 675.853:796.34

© Copyright 1965

BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

# Indian Standard

## SPECIFICATION FOR GUTS FOR TENNIS, BADMINTON AND SQUASH RACKETS ( Revised )

Sports Goods Sectional Committee, CPDC 4

*Chairman*

MAJ-GEN M. S. CHOPRA

*Representing*

The National Institute of Sports, Patiala

*Members*

SHRI JAGMOHAN SINGH ( <i>Alternate to</i> Maj-Gen M. S. Chopra )	
SHRI K. C. S. ACHARYA	All India Council of Sports ( Ministry of Education ), New Delhi
LT-COL H. R. ADHIKARI	Services Sport Control Board, New Delhi
LT KEHAR SINGH ( <i>Alternate</i> )	
SHRI BALWANT SINGH	The Sports Goods Export Promotion Council, New Delhi
SHRI D. N. BUDHIRAJA ( <i>Alternate</i> )	
SHRI R. N. BANERJEE	Symonds & Co. Private Ltd., Allahabad
SHRI K. S. BHATZADA	The Federation of Sports Industries, Jullundur
SHRI HARNAM SINGH JOLLY ( <i>Alternate</i> )	
SHRI M. L. BHATTACHARYYA	Directorate of Industries, Government of West Bengal
SHRI B. B. CHAKI ( <i>Alternate</i> )	
SHRI P. BISYA	The National Small Industries Corporation Ltd., New Delhi
SHRI R. DAYAKISSEN	Indian Hockey Federation, Madras
SHRI P. C. JAIN ( <i>Alternate</i> )	
SHRI MALIK RAM DEWAN	Directorate of Industries, Government of Uttar Pradesh
WG CDR K. K. GANGULY	All-India Football Federation, Bombay
DR. M. HABIBULLAH	Industries & Commerce Directorate, Government of Jammu & Kashmir
SHRI N. C. JAIN	Forest Research Institute & Colleges, Dehra Dun
SHRI H. B. SINGH KALRA	Directorate of Industries, Government of Punjab
SHRI K. L. KAWATRA	All-India Sports Manufacturers Federation ( Regd. ), Meerut
SHRI A. S. BHATIA ( <i>Alternate</i> )	
SHRI SUMANT C. MISRA	All India Lawn Tennis Association, Calcutta
SHRI R. K. KHANNA ( <i>Alternate</i> )	

( Continued on page 2 )

BUREAU OF INDIAN STANDARDS  
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG  
NEW DELHI 110002

( Continued from page 1 )

<i>Members</i>	<i>Representing</i>
SHRI PREM PANDHI	In personal capacity ( <i>The Metal Box Company of India Ltd., New Delhi</i> )
SHRI RAMESHWAR DAYAL	Gymnastic Federation of India, New Delhi
SHRI BAROJA RANJAN ROY ( <i>Alternate</i> )	
DR. H. A. SHAH	Office of the Development Commissioner, Small Scale Industries, New Delhi
SHRI S. N. SHARMA	Forest Research Institute & Colleges, Dehra Dun
SHRI G. S. SIVIA	Inter-University Sports Board of India & Ceylon, New Delhi
SHRI S. SRIRAMAN	The Board of Control for Cricket in India, Madras
SHRI A. N. GHOSE ( <i>Alternate</i> )	
SHRI BHUPESH B. TURAKHIA	Montana Sports ( India ) Private Ltd., Bombay
SHRI A. B. RAO,	Director, ISI ( <i>Ex-officio Member</i> )
Deputy Director ( Consumer Products ) ( <i>Secretary</i> )	

### Guts Subcommittee, CPDC 4 : 7

<i>Convener</i>	
SHRI CHANDER MOHAN SINGH	The Pioneer Sports Works Private Ltd., Jullundur
<i>Members</i>	
SHRI A. R. KAPOOR	Directorate of Industries, Government of Uttar Pradesh
SHRI H. R. WADHWANI ( <i>Alternate</i> )	
SHRI B. R. PRASHAR	Indian ( Tennis ) Gut Factory, Bullandshahr
SHRI RANBIR SINGH	The National Institute of Sports, Patiala
REPRESENTATIVE	All India Sports Manufacturers Federation ( Regd. ), Meerut
REPRESENTATIVE	Delhi Sports Goods Manufacturers Association, Delhi
REPRESENTATIVE	Directorate of Industries, Government of Punjab
REPRESENTATIVE	Poona Gut Factory, Poona
REPRESENTATIVE	The Federation of Sports Industries, Jullundur
REPRESENTATIVE	The Federation of Sports Industries, Jullundur

*Indian Standard*  
SPECIFICATION FOR  
GUTS FOR TENNIS, BADMINTON  
AND SQUASH RACKETS  
( *Revised* )

**0. FOREWORD**

**0.1** This Indian Standard ( Revised ) was adopted by the Indian Standards Institution on 29 October 1965, after the draft finalized by the Sports Goods Sectional Committee had been approved by the Consumer Products Division Council.

**0.2** This standard, dealing with the intestine guts, was first published in 1953 as a tentative standard and was one of a series of Indian Standards on sports goods and gymnastics equipment prepared on the recommendation of the Export Promotion Committee of the Government of India. In this revision the values have been given in rationalized metric units.

**0.3** Attention is invited to clause **3.3** which calls for an agreement between the purchaser and the supplier and which permits the purchaser to use his option for selection to suit his requirements.

**0.4** For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test, shall be rounded off in accordance with IS : 2-1960\*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

---

**1. SCOPE**

**1.1** This standard covers the requirements for intestine guts used for stringing tennis, badminton and squash rackets.

**2. MATERIAL**

**2.1** The guts shall be made of intestines of sheep or goats, in one continuous length without any joint.

\*Rules for rounding off numerical values ( *revised* ).

### 3. REQUIREMENTS

**3.1 Dimensions** — The lengths and diameters of guts shall be as given in Table 1.

**TABLE 1 REQUIREMENTS FOR GUTS**

SL No.	CHARACTERISTIC	TENNIS	BADMINTON	SQUASH
(1)	(2)	(3)	(4)	(5)
i)	Length, mm			
	a) Main string	6 400 $\pm$ 80	5 800 $\pm$ 80	4 270 $\pm$ 80
	b) Cross string	5 500 $\pm$ 80	5 200 $\pm$ 80	4 270 $\pm$ 80
ii)	Nominal diameter (unstrung), mm	1.35 to 1.40	0.90 to 1.00	1.25 to 1.40
iii)	Breaking strength in kgf, <i>Min</i>	40	11	40

**3.2 Twists** — The guts shall be twisted in a uniform manner and shall have approximate one twist per centimetre.

**3.3 Colour** — The guts shall be of white or cream colour. If required by the purchaser, the guts may be supplied in orange, red or black or in combination of any two of these colours.

**3.4 Breaking Strength** — The guts shall have the minimum breaking strength as specified in Table 1.

### 4. PACKING

**4.1** The guts shall be coiled and wrapped in cellophane film and sealed in polyethylene or butter-paper bags. Alternatively, after being wrapped in cellophane film, it shall be mounted on cardboard and finally covered with cellophane film.

### 5. MARKING

**5.1** The manufacturer's name, the year of manufacture of the material and the purpose for which the gut is intended, that is, tennis, badminton or squash, shall be suitably marked on the packing. The packet shall include a leaflet indicating the diameter of the gut and manufacturer's or supplier's instructions regarding the tension at which the gut is to be strung on rackets.



**5.1.1** The packings of the guts may also be marked with the ISI Certification Mark.

**NOTE** — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution ( Certification Marks ) Act, and the Rules and Regulations made thereunder. Presence of this mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard, under a well-defined system of inspection, testing and quality control during production. This system, which is devised and supervised by ISI and operated by the producer, has the further safeguard that the products as actually marketed are continuously checked by ISI for conformity to the standard. Details of conditions, under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.

## 6. SAMPLING

**6.1 Lot** — In any consignment, all the guts of the same type and belonging to the same batch of manufacture shall constitute a lot.

**6.1.1** Each lot shall be tested separately to ascertain its conformity to the requirements of this standard.

**6.2** To ascertain the conformity of the lot to the requirements of this standard, the number of guts to be selected at random from the lot shall be in accordance with col 1 and 2 of Table 2.

---

**TABLE 2 SAMPLE SIZE AND CRITERIA FOR CONFORMITY**

LOT SIZE ( NUMBER OF GUTS IN THE LOT )	SAMPLE SIZE ( NUMBER OF GUTS TO BE SELECTED )	ACCEPTANCE NUMBER	SUB-SAMPLE SIZE
(1)	(2)	(3)	(4)
Up to 100	13	1	3
101 „ 150	20	1	4
151 „ 300	32	2	5
301 „ 500	50	3	6
501 „ 1 000	80	5	8
1 001 and above	125	7	10

---

## 6.3 Number of Tests and Criteria for Conformity

**6.3.1** The guts selected according to 6.2 shall be inspected for dimensions, twists and colour.

**6.3.2** For breaking strength the number of guts to be selected from the guts already inspected under 6.3.1 and found satisfactory with respect to all the characteristics mentioned there, shall be in accordance with col 4 of Table 2.

**6.3.3 Criteria for Conformity** — The lot shall be declared as conforming to the requirements of this standard if the conditions given below are satisfied.

- a) The number of defective guts with respect to any one or more of the characteristics inspected for in **6.3.1** does not exceed the corresponding acceptance number given in col 3 of Table 2.
- b) From the test results for breaking strength the average  $\bar{X}$  ( see Note 1 ) and the range  $\bar{R}$  ( see Note 2 ) are computed and the value of the expression  $\bar{X} - 0.6 \bar{R}$  is not less than the relevant specified minimum value.

NOTE 1 — Average ( $\bar{X}$ ) is the value obtained by dividing the sum of test results by the number of test results.

NOTE 2 — Range ( $\bar{R}$ ) is the difference between the maximum and the minimum of the test results.

## BUREAU OF INDIAN STANDARDS

### Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI-110002

Telephones : 331 01 31

331 13 75

Telegrams : Manaksanstha

(Common to all Offices)

### Regional Offices:

	Telephone
Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002	331 01 31 331 13 75
*Eastern : 1/14 CIT Scheme VII M, V.I.P. Road, Maniktola, CALCUTTA 700054	37 86 62
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022	60 38 43
Southern : C.I.T. Campus, IV Cross Road, MADRAS 600113	235 23 15
†Western : Manakalaya, E9 MIDC, Marol, Andheri (East), BOMBAY 400093	832 92 95

### Branch Offices:

'Pushpak', Nurmohamed Shaikh Marg, Khanpur, AHMADABAD 380001	30 13 48
‡Peenya Industrial Area, 1st Stage, Bangalore-Tumkur Road,, BANGALORE 560058	39 49 55
Gangotri Complex, 5th Floor, Bhadbhada Road, T.T. Nagar, BHOPAL 462003	55 40 21
Plot No. 21 Satyanagar, BHUBANESHWAR 751007	40 36 27
Kalaikathir Building, 6/48 Avanashi Road, COIMBATORE 641037	21 01 41
Plot No. 43, Sector 16 A, Mathura Road, FARIDABAD 121001	8-28 88 01
Savitri Complex, 116 G.T. Road, GHAZIABAD 201001	8-71 19 96
53/5 Ward No. 29, R.G. Barua Road, 5th By-lane, GUWAHATI 781003	54 11 37
5-8-56C L.N. Gupta Marg, Nampally Station Road, HYDERABAD 500001	20 10 83
R 14 Yudhister Marg, C Scheme, JAIPUR 302005	38 13 74
117/418 B Sarvodaya Nagar, KANPUR 208005	21 68 76
Seth Bhawan, 2nd Floor, Behind Leela Cinema, Naval Kishore Road, LUCKNOW 226001	23 89 23
Patiputra Industrial Estate, PATNA 800013	26 23 05
C/o Smt. Sunita Mirakhur,, 66 D/C Annexe, Gandhi Nagar, JAMMU TAWI 180004	—
T.C. No. 14/1421, University P.O., Palayam, THIRUVANANTHAPURAM 695034	6 21 17

### Inspection Offices (With Sale Point):

Pushpanjali, 1st floor, 205-A, West High Court Road, Shankar Nagar Square, NAGPUR 440010	525171
Institution of Engineers (India) Building 1332 Shivaji Nagar, PUNE 411005	32 36 35

\* Sales Office is at 5 Chowringhee Approach, P.O. Princep Street,  
CALCUTTA 700072 27 99 65

† Sales Office is at Novelty Chambers, Grant Road, BOMBAY 400007 309 65 28

‡ Sales Office is at 'F' Block, Unity Building, Narasimharaja Square,  
BANGALORE 560002 22 39 71